

Intel® Applied Computing System Firmware Library

Product Overview

The Intel® Applied Computing System Firmware Library (Intel ACSF Library) is a collection of software primitives used as a foundation for advanced firmware development. It provides a modular and extensible library of functions for component-level initialization of Intel microprocessors, associated chipsets and memory.

The following files are included with the product:

- Object libraries providing initialization and control functions
- Sample files demonstrating use of the libraries
- Sample make files illustrating how to build a firmware image
- User documentation

Intel ACSF Library modules are provided in COFF, a.out, and ELF formats.

Benefits

- Enables engineers using Intel® Architecture to expedite their product development process by performing basic initialization and test of a specific set of hardware
- Fully validated on the processor and chipsets supported
- OS/RTOS independent and fully 32 bit
- Small, fast and configurable
- Uses customer-prevalent GNU tool suite
- Gives user software access to hardware status information

Intended Use

- Intel ACSF Library can be used to develop initialization firmware for board support packages (BSPs) in conjunction with a real-time operating system (RTOS)
- It is compatible with most embedded software development tools and is user-configurable for custom hardware designs

Intel ACSF Library is not a replacement for a traditional BIOS in PC applications. A BIOS is recommended for designs that require extended functionality at boot time or use DOS-legacy operating systems.

Pricing/Availability

Intel Applied Computing System Firmware Library is licensed at no charge for use with Intel processors and associated Intel chipsets. It is downloadable from the Intel Developer web site at the following URL: developer.intel.com/platforms/applied/software

Supported Hardware

- Intel® Pentium® III Processor
- Intel® Pentium® II Processor
- Intel® Celeron™ Processor
- SDRAM (memory)
- Intel® 440BX Chipset
- Intel® 810 Chipset
- Serverworks® HE-SL Chipset including dual processor support

New Features:

- Validated support on the Intel 810 chipset
- Validated support on the Serverworks® HE-SL chipset
- Dual processor support

Intel® ACSF Library Architecture

Refer to the diagram on the following page

Components/Libraries—set of replaceable libraries supporting component-level initialization of Intel Architecture platforms, provided in a.out, ELF and COFF formats

Reset and Mode Switch—binary file that switches processor to protected mode after reset and turns over execution to the Basic Initialization Script

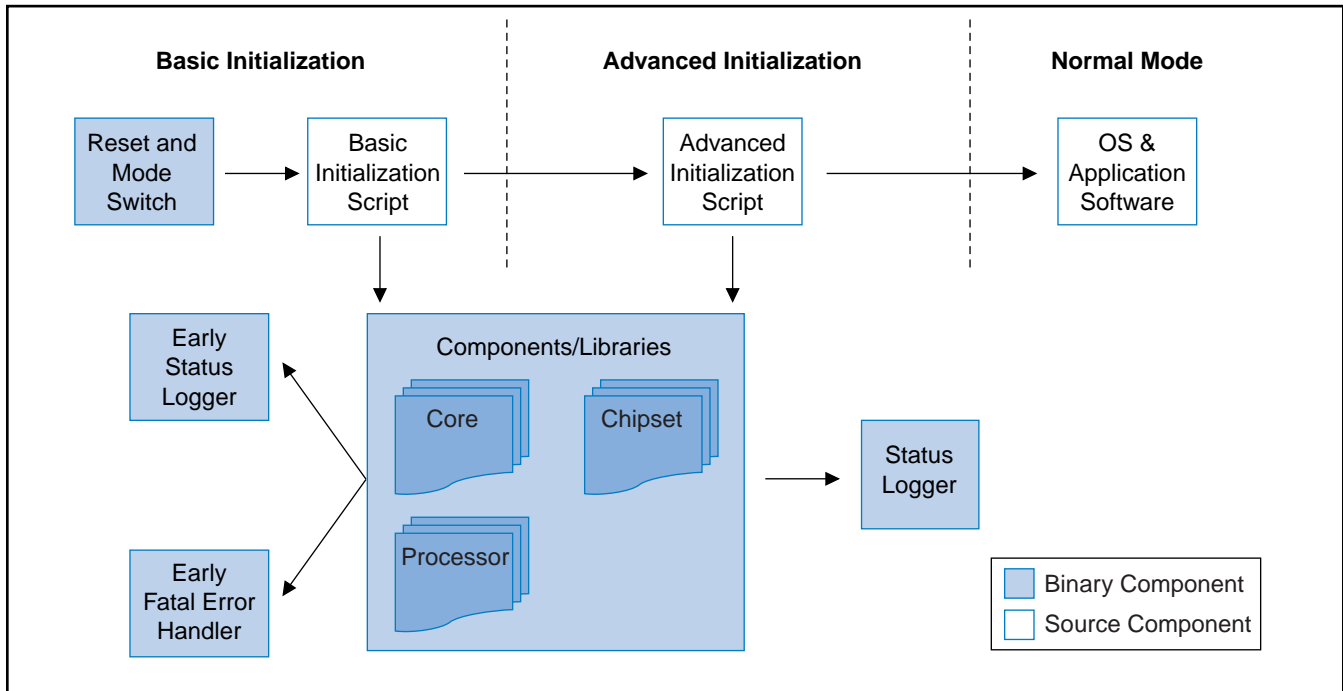
Basic Initialization Script—user configurable script (GNU Assembly) responsible for controlling pre-stack component level initialization once complete execution is turned over to the Advanced Initialization Script

Advanced Initialization Script—user configurable script (ANSI C) responsible for controlling the post-stack component level initialization, once complete execution is turned over to the OS & Application Software

OS & Application Software—user-supplied executable code

Status Logger—use-replaceable binary that posts code to port 0x80 to indicate status of component level initialization

Early Fatal Error Handler—binary code supplied in library form that posts code to port 0x80 and halts processor



Intel® ACSF Library provides a modular and extensible library of functions that initialize processors, chipsets, and memory. Users get early access to status information and can customize error handling and initialization scripts to suit their needs.

Intel Access

Developer's Site	developer.intel.com
Intel Applied Computing System Firmware Library	developer.intel.com/platforms/applied/software/firmware/acsf
Other Intel Support:	developer.intel.com/design/litcentr
Intel Literature Center	(800) 548-4725 7 a.m. to 7 p.m. CST (U.S. and Canada) International locations please contact your local sales office.
General Information Hotline	(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST

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For more information, visit the Intel Web site at: developer.intel.com

UNITED STATES AND CANADA
Intel Corporation
Robert Noyce Bldg.
2200 Mission College Blvd.
P.O. Box 58119
Santa Clara, CA 95052-8119
USA

EUROPE
Intel Corporation (UK) Ltd.
Pipers Way
Swindon
Wiltshire SN3 1RJ
UK

ASIA-PACIFIC
Intel Semiconductor Ltd.
32/F Two Pacific Place
88 Queensway, Central
Hong Kong, SAR

JAPAN
Intel Kabushiki Kaisha
P.O. Box 115 Tsukuba-gakuen
5-6 Tokodai, Tsukuba-shi
Ibaraki-ken 305
Japan

SOUTH AMERICA
Intel Semicondutores do Brasil
Rue Florida, 1703-2 and CJ22
CEP 04565-001 Sao Paulo-SP
Brazil